Exhibits

Tables

SECTION 2

ALTERNATIVES

Section 2 describes the alternatives developed and evaluated to address the purpose and need for proposed improvements in the WIS 83 corridor as presented in EIS Section 1. Discussions include initial alternatives considered, alternatives screening, and the reasonable alternatives[1] retained for detailed study.

NO BUILD ALTERNATIVE

Under the No Build Alternative the existing 2-lane and 4-lane sections along the WIS 83 corridor would not be widened to provide additional roadway capacity. The existing highway would bear future traffic increases with effects on congestion, mobility, operational characteristics, and safety. Any future improvements in the WIS 83 corridor would consist of activities that attempt to maintain current service levels, keep the driving surface in good condition, and address safety concerns at spot locations. The No Build Alternative could include the following types of improvements when pavement condition or safety concerns and capacity related problems at isolated locations indicate the need.

- **Resurfacing—**Placing a new surface on the existing roadway to provide a better all weather/riding surface and to extend or renew the pavement life. Resurfacing activities could also include pavement widening and shoulder paving where needed without changing the subgrade shoulder points, diamond grinding, joint repair, partial depth milling and overlay.
- **Bridge rehabilitation—**Includes repair or restoration of existing structures.
- **Safety improvements--**Includes measures to address safety concerns and geometric deficiencies at isolated locations without substantially reconstructing the existing roadway. Such improvements could include pavement edge lines, raised pavement markers, post delineators, slope flattening, obstacle removal, vision corners, shoulder widening, driveway relocations, speed control, and traffic signals.

While the No Build Alternative would not address long-term key purpose and need factors (future traffic demand, geometric deficiencies, and safety concerns) on the majority of the WIS 83 corridor, it would be applicable as an interim improvement in the County X to County DE/E and WIS 16 to Chapel Ridge Road sections and serves as a baseline of comparison to the Build Alternatives in other WIS 83 sections.

[1] The Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act recognizes that many alternatives may exist for implementing a particular action, and state that only reasonable alternatives should be carried forward for detailed evaluation and comparison. Reasonable alternatives are those that are practical and feasible for addressing project purpose and need; for which overall social, environmental, and economic impacts can be avoided, minimized, or mitigated to the extent possible; and that are consistent with regional and local planning goals and objectives.

TRANSPORTATION CONTROL MEASURES

Transportation Control Measures (TCM) attempt to reduce the number of auto trips through increased transit (primarily bus ridership). The public transit system element of the *2020 Regional Transportation System Plan* recommends several ways to increase bus service in outlying and urbanized areas in Waukesha County. Options include developing a rapid transit bus system operating on freeways to provide commute and reverse commute service, an express bus system operating on a grid of higher speed, limited-stop arterials, and a local bus system that would operate on arterial and collector streets and have frequent stops.

Transit service is not available in the WIS 83 study corridor. There are no plans to extend service to the corridor because land use plans indicate there will not be sufficient ridership density in this portion of Waukesha County to warrant or support viable transit service. Wisconsin Coach Lines that runs in an east-west direction along I-94 does have a stop at the park and ride lot located at WIS 83 and County DR (Golf Road) in Delafield.

The TCM Alternative is not considered a viable option for addressing future traffic demand, geometric deficiencies, and safety concerns on WIS 83.

TRANSPORTATION SYSTEM MANAGEMENT

Transportation System Management (TSM) involves ways to maximize the efficiency and use of the highway system to help alleviate or postpone the need to increase capacity. The TSM element of the *2020 Regional Transportation System Plan* recommends measures such as freeway traffic management (ramp meters, bus and high-occupancy lanes), intelligent transportation systems (advanced traveler information for transit and highway travel conditions), and travel demand management (ridesharing, telecommuting, and flexible work schedules). TSM measures also include engineering design features to improve traffic flow and safety such as intersection capacity improvements, street parking removal or restricting parking to non-peak traffic periods, adding traffic signals, and eliminating or consolidating driveways where possible. Other TSM safety improvements include pavement edge lines, raised pavement markers, post delineators, slope flattening, obstacle removal, vision corners, shoulder widening, driveway relocations, and speed control.

A recent TSM measure in the WIS 83 corridor was the addition of turn lanes and traffic signals at the County DE/E intersection. Other potential measures could include improving traffic signal timing in the I-94 interchange area and removing street parking in Genesee Depot.

In general, the types of TSM measures applicable to the WIS 83 corridor would be similar to the safety improvements that would occur over time under the No Build Alternative. Although the TSM Alternative would partially address some purpose and need issues on a short-term basis, it is not considered a viable stand-alone solution for addressing future traffic demand, geometric deficiencies, and safety concerns on WIS 83.

BUILD ALTERNATIVES

The Build Alternatives focus on long-term improvements to WIS 83 that would address the following key purpose and need factors (see EIS Section 1 for more detail):

- Present and future traffic demand
- Existing highway deficiencies and present/emerging safety concerns
- Access management
- Environmental constraints such as wetlands, historic structures and cemeteries
- Community objectives that include preserving the rural character/aesthetic features of the corridor, and providing accommodations for pedestrian and bicycle traffic
- Corridor preservation to assist local officials in making long-term land use and development decisions and protecting land needed for future highway improvements

The Build Alternatives were also developed in view of regional and county transportation and land use plans, public input, information provided by the Project Advisory Committee (PAC), and coordination with state and federal review agencies.

Initial Build Alternatives

The initial Build Alternatives focused on adding capacity to existing WIS 83 where forecast traffic for Design Year 2026 is above the threshold volumes that can be safely handled at an acceptable service level on the existing highway.

General Concepts

As shown in Table 1-3 in EIS Section 1, forecast traffic for Design Year 2026 on all but the County X to County DE/E, County DR/Golf Road to Meadow Lane, and WIS 16 to Chapel Ridge Road sections will be above the threshold volumes that indicate the need for additional capacity.

The extent to which capacity can or should be added to highway segments that approach or exceed the threshold volumes depends on additional considerations such as the following:

- The ability to make other types of long-term improvements to address traffic flow and safety concerns.
- Existing and planned land use, level of development, and number of access points.
- Environmental constraints such as wetlands, cemeteries, parks, and historic sites.
- Traffic characteristics and mix (speed limit, local versus through traffic split, percent trucks).
- Engineering standards such as safety clear zones, turning capacity, and drainage accommodations (rural ditches or urban storm sewers).

Table 2-1 summarizes the WIS 83 corridor with respect to existing and future traffic volumes, threshold volumes, and the required facility type according to current WisDOT design standards.

TABLE 2-1
Traffic Volumes and Facility Type Required

Roadway Segment And Type[1]	Existing Traffic (2000)	Future Traffic (2026)	Threshold Volume[2]	Facility Type Required to 2026
County NN to County X (Rural transitioning to suburban)	9,600	15,700	13,800	4-lane
County X to County DE/E (Rural/suburban transitioning to suburban/urban)	6,900	11,300	13,800	2-lane
County DE/E to Hillside Drive (Urban/Suburban)	16,100	25,300	13,800	4-lane
Hillside Drive to County DR/Golf Road (Urban)	23,200	36,000	28,000	4-lane with right turn lanes
County DR/Golf Road to Meadow Lane (Suburban)	17,200	26,300	13,800	4-lane
Meadow Lane to WIS 16 (Suburban)	14,300	23,300	13,800	4-lane
WIS 16 to Chapel Ridge Road (Suburban)	8,300	13,500	13,800	2-lane

Notes:
1. Roadway type is based on predominant land use characteristics adjacent to the existing highway.
2. Per WisDOT *Facilities Development Manual* and Transportation Research Board *Highway Capacity Manual HCM2000.* WisDOT considers Level of Service (LOS) 5.0/"D" acceptable for minor arterials like WIS 83 that are not part of the Corridors 2020 network.

Initial Build Alternatives in the County X to County DE/E section where traffic is not expected to reach the threshold for additional capacity until sometime after Design Year 2026, included the following:

- Reconstruct the existing 2-lane highway to current design standards.
- A 4-Lane Corridor Preservation Alternative that would provide an opportunity for local officials to preserve the right-of-way for a future 4-lane facility to be constructed when or if forecast traffic reaches the capacity expansion threshold at some point beyond Design Year 2026.

The 4-Lane Corridor Preservation Alternative could consist of widening the existing highway along its present alignment or using a new off-alignment route in the Genesee Depot area between Walnut Street/Seville Lane and County DE/E.

Alternatives Development

The first step in developing the initial alternatives was to evaluate a range of roadway dimensions (cross sections) that could be applicable in various parts of the WIS 83 corridor based on the following key factors:

- Existing and planned land use, level of development, and number of access points
- Environmental constraints including wetlands, cemeteries, parks, and historic sites
- Traffic characteristics and mix (speed limit, local versus through traffic split, percent trucks)
- Future traffic volumes
- Engineering features such as safety clear zones, turning capacity, and drainage accommodations (rural ditches or urban storm sewers)

In general, urban/suburban roadways with curb and gutter adjacent to the driving lanes and median are used in developed areas where speed limits are lower and where storm sewers can be used to collect highway runoff. Rural roadways with grass medians and ditches are used in open areas where speed limits are higher and the ditches are used to collect highway runoff. Roadways with combined urban/suburban and rural features are used in areas where environmental and other constraints require a narrower cross section to minimize overall impacts without compromising safety.

The initial range of roadway dimensions considered for the WIS 83 corridor are illustrated in Exhibit 2-1 and summarized as follows.

4-lane rural cross section

- Shoulders and ditches on outside edge of driving lanes
- 50-60 foot (15-18 meter) grass median
- Posted speed 50-55 mph (80-90 km/h)
- Approximately 225 feet (69 meters) total right-of-way

4-lane hybrid urban/rural cross section

- Shoulders and ditches on outside edge of driving lanes; curb and gutter in isolated areas to minimize impacts
- Curb and gutter adjacent to a 30-foot (9-meter) median
- Posted speed 45-55 mph (70-90 km/h)
- Approximately 195 feet (59 meters) total right-of-way
- The hybrid urban/rural cross section represents a compromise from WisDOT's normal rural highway standard that would have a 60-foot (18-meter) wide median

4-lane suburban with shoulders cross section

- Shoulders and curb on outside edge of driving lanes
- Curb and gutter adjacent to 30-foot (9-meter) median
- Posted speed 45 mph (70 km/h)
- Approximately 130 feet (40 meters) total right-of-way

4-lane urban cross section with right turn lanes

- Curb and gutter on outside edge of driving lanes and adjacent to 36-foot (11-meter) median needed to accommodate dual left turns
- Posted speed 35 mph (55 km/h)
- Approximately 136 feet (41 meters) total right-of-way
- Suitable in a commercial area such as that near I-94

4-lane divided urban cross section

- Curb and gutter on outside edge of driving lanes and adjacent to 24-foot (7-meter) median
- Posted speed 25-40 mph (40-65 km/h)
- Approximately 100 feet (30 meters) total right-of-way
- Could be used in tight areas such as through Genesee Depot or Wales

4-lane urban cross section with center left turn lane

- Curb and gutter on outside edge of driving lanes
- 14-foot (4-meter) median would accommodate left turns
- Posted speed 25-40 mph (40-65 km/h)
- Approximately 90 feet (27 meters) total right-of-way
- Could be used in tight areas such as through Genesee Depot or Wales

4-lane undivided urban cross section

- Curb and gutter on outside edge of driving lanes
- No median or left-turn lanes
- Posted speed 25-40 mph (40-65 km/h)
- About 76 feet (23 meters) total right-of-way
- Could be used in tight areas such as through Genesee Depot or Wales

Improved 2-lane cross section

Reconstruct existing 2-lane rural roadway segments to current design standards that include 12-foot (4-meter) wide driving lanes and 10-foot (3-meter) shoulders with 8 feet (2 meters) paved.

Table 2-2 lists the various WIS 83 project sections and the initial roadway types that were considered potentially viable for reconstructing the existing highway. For roadway types that would involve additional capacity, widening could occur east or west of the existing highway or could be centered with respect to the existing highway centerline.

TABLE 2-2
Initial Roadway Alternatives Considered

WIS 83 Section	Existing Roadway	Possible Roadway Types
County NN to County X	2-lane rural	4-lane rural 4-lane hybrid urban/rural 4-lane suburban with shoulders
County X to County DE/E		
County X to Walnut Street	2-lane rural	Reconstruct existing 2-lane highway 4-Lane Corridor Preservation Alternative (4-lane hybrid urban/rural) (4-lane suburban with shoulders)
Walnut Street to WIS 59	2-lane rural	Reconstruct existing 2-lane highway 4-Lane Corridor Preservation Alternative (4-lane divided urban) (4-lane with center left-turn lane) (4-lane undivided urban)
WIS 59 to County D	2-lane rural/urban	Reconstruct existing 2-lane highway 4-Lane Corridor Preservation Alternative (4-lane divided urban) (4-lane with center left-turn lane) (4-lane undivided urban)
County D to County DE/E	2-lane rural	Reconstruct existing 2-lane highway 4-Lane Corridor Preservation Alternative (4-lane divided urban) (4-lane suburban with shoulders)
County DE/E to Hillside Road		
County DE/E to County G	2-lane rural	4-lane divided urban 4-lane suburban with shoulders
County G to US 18	2-lane rural	4-lane divided urban 4-lane with center left-turn lane 4-lane undivided urban
US 18 to Hillside Drive	2-lane rural	4-lane hybrid urban/rural 4-lane suburban with shoulders
Hillside Drive to County DR/Golf Road	4-lane divided rural/urban	4-lane urban with right turn lanes
County DR/Golf Road to Meadow Lane	4-lane divided (suburban with shoulders)	No change; the existing cross section would be retained
Meadow Lane to WIS 16	2-lane rural	4-lane hybrid urban/rural 4-lane suburban with shoulders
WIS 16 to Chapel Ridge Road	2-lane rural	Reconstruct existing 2-lane highway

Several Off-Alignment 4-Lane Corridor Preservation Alternatives were also considered in the Genesee Depot area between Walnut Street/Seville Lane and County DE/E. The Off-Alignment Alternatives were developed for the following reasons:

- Avoid reconstructing the existing 2-lane highway through the community or widening it as part of a 4-Lane Corridor Preservation Alternative on existing alignment
- Reduce the amount of traffic including heavy trucks passing through the community
- Avoid possible impacts to several potentially historic structures and the Magee Elementary School
- Reduce conflicts at numerous access points (driveways and sideroads) to WIS 83
- Avoid the right-angle turn on WIS 83 that is presently required in Genesee Depot

The initial Off-Alignment 4-Lane Corridor Preservation Alternatives are illustrated on Exhibit 2-2. The roadway dimension for all of the Off-Alignment Alternatives was assumed to be the "4-lane suburban with shoulders" cross section.

Other Off-Alignment Alternatives were also considered early in the study such as using County E and County ZZ. These alternatives were not carried forward because they are too far west to substantially reduce traffic on the existing WIS 83 route, are not consistent with the *2020 Regional Transportation System Plan for Southeastern Wisconsin* or Waukesha County Plans, are not supported by local officials, and would be cost prohibitive due to their length.

Alternatives Screening

Initial screening of the Build Alternatives involved continued engineering and environmental impact evaluation, state and federal review agency input on wetlands and other natural resources, and preliminary information on historic resources. Input from the public and local officials through the monthly local information sessions, meetings with local officials and interest groups, and meetings with the PAC also played an important role in the alternatives screening process.

The initial screening recommendations were presented at the second (May 22, 2002) PAC meeting and at the June 2002 local information session. The recommendations included refined roadway dimensions for particular WIS 83 sections, and eliminating all but one of the Off-Alignment 4-Lane Corridor Preservation Alternatives in the Genesee Depot area.

The focus of refining the roadway dimensions for alternatives that would follow existing WIS 83 was to strike a balance between meeting engineering design and safety standards, addressing project purpose and need, avoiding or minimizing impacts to abutting development and environmental resources, and providing the greatest potential for retaining the aesthetic character of the corridor. Based on these objectives, the roadway alternatives were refined to those listed in Table 2-3.

TABLE 2-3
Refined Roadway Alternatives

WIS 83 Section	Existing Roadway	Possible Roadway Types
County NN to County X	2-lane rural	4-lane hybrid urban/rural
County X to County DE/E		
County X to Walnut Street	2-lane rural	Reconstruct existing 2-lane highway 4-Lane Corridor Preservation Alternative (4-lane hybrid urban/rural)
Walnut Street to WIS 59	2-lane rural	Reconstruct existing 2-lane highway 4-Lane Corridor Preservation Alternative (4-lane urban with center left-turn lane)
WIS 59 to County D	2-lane rural	Reconstruct existing 2-lane highway 4-Lane Corridor Preservation Alternative (4-lane undivided urban)
County D to County DE/E	2-lane rural	Reconstruct existing 2-lane highway 4-Lane Corridor Preservation Alternative (4-lane divided urban)
County DE/E to Hillside Road		
County DE/E to County G	2-lane rural	4-lane divided urban
County G to Welsh Road	2-lane rural	4-lane undivided urban
Welsh Road to US 18	2-lane rural	4-lane divided urban
US 18 to Hillside Drive	2-lane rural	4-lane hybrid urban/rural
Hillside Drive to County DR/Golf Road	4-lane divided rural/urban	4-lane urban with right turn lanes
County DR/Golf Road to Meadow Lane	4-lane divided (suburban with shoulders)	No change; the existing cross section would be retained
Meadow Lane to WIS 16	2-lane rural	4-lane hybrid urban/rural
WIS 16 to Chapel Ridge Road	2-lane rural	Reconstruct existing 2-lane highway

Screening and refining the Off-Alignment 4-Lane Corridor Preservation Alternatives in the Genesee Depot area focused on comparing the magnitude of impacts for the various alignments that were considered initially. Input from area citizens, local officials, and the PAC also played an important role in the screening effort.

Exhibit 2-3 provides a comparison between several key impact factors for the Off-Alignment Alternatives. The impacts were calculated within common termini from Walnut Street/Seville Lane to County DE/E. Because the alternatives would use some portions of existing WIS 83, the table also provides a breakdown for the "new alignment" segments.

Based on the initial screening effort, it was recommended that all Off-Alignment 4-Lane Corridor Preservation Alternatives except "Alternative D" be eliminated from further consideration. Alternative D was recommended for further evaluation because it had the least overall impacts compared to the other Off-Alignment Alternatives and through town alternative. It would also minimize displacements on the east-west leg of WIS 83 passing through Genesee Depot, minimize access points, and would avoid the right-angle turn.

ALTERNATIVES RETAINED FOR DETAILED STUDY

Based on additional input from the PAC and area citizens, the preliminary alternatives for improving WIS 83 were refined to the reasonable alternatives that would be evaluated in detail in the EIS. Again, the focus was to provide alternatives that would address long-term purpose and need factors, meet engineering design standards, and avoid or minimize overall impacts to the extent possible and practical. In general, PAC members expressed a preference for roadway cross sections that have open grass medians and minimal use of curb and gutter on the outside edge of the roadway because such roadways would be more conducive to landscaping and would help improve storm water quality. There was also strong interest in providing a multi-use path along some portions of WIS 83.

In the Genesee Depot area, most PAC members supported eliminating the Off-Alignment Alternatives and expressed a preference for the No Build Alternative (resurfacing and spot safety improvements). However, some PAC members thought it would be important to preserve a corridor for a future 4-lane highway. Area citizens also supported eliminating the Off-Alignment Alternatives, including Alternative D, and expressed a preference for the No Build Alternative.

The alternatives that have been retained for detailed study are summarized beginning on page 2-11. The information is organized by WIS 83 section and alternatives within each section. For alternatives that would involve adding capacity to the existing roadway, a "best-fit" alignment with respect to widening east, west, or down the middle is also identified.

The best-fit alignment is essentially the same concept as the "environmentally preferred" alternative referred to in the Council on Environmental Quality regulations for implementing the National Environmental Policy Act. It would meet project purpose and need and cause the least damage to the natural and built environment.

For purposes of the WIS 83 Corridor Study, the best-fit alignment is defined as the widening option that balances and minimizes overall environmental impacts to the extent possible and practical including impacts to abutting residential and business development, wetlands, historic structures and archaeological resources, farmland, habitat for threatened or endangered species, and cemeteries.

Section 1—County NN to County X

Traffic in this WIS 83 section (Exhibit 2-4) is forecast to reach 15,700 AADT in Design Year 2026. The threshold volume that can be safely handled at an acceptable service level on the existing rural/suburban 2-lane highway is 13,800 AADT.

No Build Alternative

The No Build Alternative that would include minor improvements such as resurfacing, drainage structure rehabilitation and safety improvements is not a viable long-term solution because it would fail to address the need for additional roadway capacity in this project section.

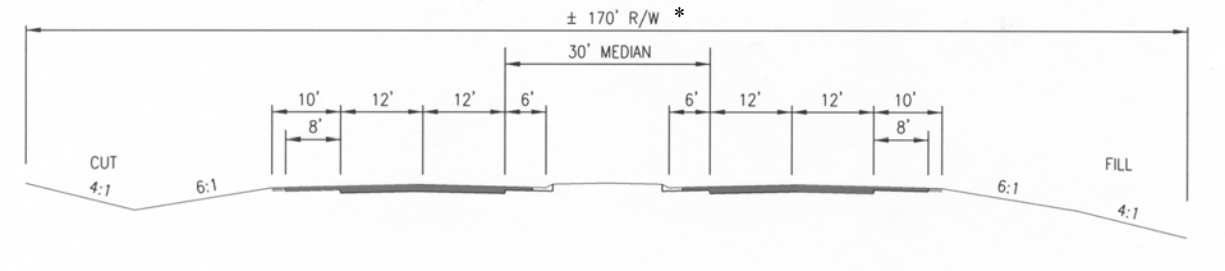
2-Lane Reconstruction Alternative

Reconstruction of the existing 2-lane roadway in this project section is already proposed in the 2002-2004 Transportation Improvement Program as an interim Highway Preservation (HP) project intended to preserve the functionality of the existing roadway until capacity improvements are made at some point in the future. While this improvement would provide wider shoulders and a smoother riding surface, it would fail to address the long-term need for additional roadway capacity. This alternative is not considered to be a viable long-term solution for addressing project purpose and need.

Reasonable Build Alternative

The proposed reasonable build alternative is a 4-lane hybrid urban/rural roadway as illustrated below and with the following key features:

- Shoulders and ditches on outside edge of driving lanes
- Curb and gutter next to 30-foot (9-meter) median
- Curb on outside edge of pavement in isolated areas to minimize impacts including the transition from the existing 5-lane urban roadway north of County NN to near the Fox River Tributary
- Approximately 170 feet (52 meters) total right-of-way
- Posted speed 55 mph (90 km/h)
- No multi-use path



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way.

The 4-lane hybrid urban/rural alternative would address future traffic demand, fits the rural/suburban character of the area, and the grassed slopes and ditches provide storm water quality advantages. The 4-lane rural cross section that was eliminated from further consideration would require approximately 225 feet (69 meters) total right-of-way and would increase overall impacts. The 4-lane suburban roadway alternative that was also eliminated

from further consideration would require approximately 130 feet (40 meters) total right-of-way but would reduce the present 55 mph (90 km/h) speed limit to 45 mph (70 km/h). The rural open nature of this WIS 83 segment is conducive to maintaining the present 55 mph (90 km/h) speed limit. This alternative would also lack the storm water quality advantages provided with the hybrid urban/rural alternative.

The best-fit alignment combination would be:

- Widen down the middle from 1700 feet (520 meters) north of County NN to near the Fox River Tributary

Widening down the middle balances residential proximity impacts of both sides of WIS 83.

- Widen west from near the Fox River Tributary to Sugden Road

Widening west balances residential proximity impacts on the east side with some wetland impacts on the west side. Although widening west would impact approximately 1.5 acres (0.6 ha) of wetland compared to approximately 0.8 acres (0.3 ha) for widening down the middle, area residents east of the existing highway have expressed substantial opposition to moving the roadway closer to their homes. Widening west would provide construction staging advantages compared to widening down the middle. One hill would be cut and one valley filled approximately ½ mile (0.3 km) north of County NN.

- Widen east from Sugden Road to approximately 1,000 feet (305 meters) north of County I

Widening east minimizes residential proximity impacts and wetland impacts on the west side and would provide construction staging advantages compared to widening down the middle. One hill would be cut midway between Sugden Road and County I.

- Widen west from approximately 1,000 feet (305 meters) north of County I to County X

Widening west would minimize potential residential displacements on the east side in the area north of County X and would provide construction staging advantages compared to widening down the middle. One hill would be cut just north of County X. County X would be realigned to intersect WIS 83 at a safer angle of 90 degrees.

Section 2—County X to County DE/E

Traffic in this WIS 83 section (Exhibit 2-4) is forecast to reach 11,300 AADT in Design Year 2026. The threshold volume that can be safely handled at an acceptable service level on the existing suburban/urban 2-lane highway is 13,800 AADT. Traffic forecasts indicate this WIS 83 section would not need additional traffic capacity within an approximate 20-year planning period.

Therefore, the reasonable alternatives evaluated in this project section include the No Build Alternative as described on page 2-1 and the 2-Lane Reconstruction Alternative. These alternatives could be implemented as interim improvements until or if traffic in this section reaches the 13,800 AADT threshold.

The reasonable alternatives also include a long-term 4-Lane Corridor Preservation Alternative that would provide an opportunity for local officials to make prudent land use/development decisions that would allow for future capacity expansion if and when traffic volumes or safety factors indicate the need. Additional information on the 4-Lane Corridor Preservation Alternative as it relates to consistency with the regional transportation plan and the Transportation Improvement Program (TIP) is provided under "Selection of a Preferred Alternative".

Because there are unique characteristics within the overall County X to County DE/E project section relative to appropriate alternatives, the discussion below is organized further by roadway subsections.

Section 2—County X to County DE/E (County X to Walnut Street)

No Build Alternative

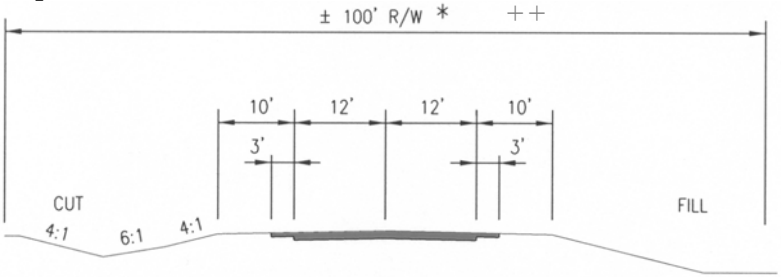
The No Build Alternative would consist of resurfacing the existing roadway and making safety improvements when pavement and structure conditions warrant and when safety concerns or capacity problems develop at isolated locations. Improvements would generally be made within existing right-of-way, and impacts would be minimal. This alternative would be implemented over time by adding such improvements to the TIP.

2-Lane Reconstruction Alternative

This interim improvement alternative would consist of reconstructing the existing 2-lane roadway to modern design standards. This alternative would be implemented over time by adding such improvements to the TIP. For example, there is a project in the 2002-2004 TIP that calls for reconstructing WIS 83 from County NN to WIS 59 (includes the County X to Walnut Street segment).

Based on a combination of land use constraints and level of abutting development in the County X to Walnut Street segment, the interim 2-Lane Reconstruction Alternative for this segment is a 2-lane rural roadway as illustrated below and with the following key features:

- Shoulders and ditches on outside edge of driving lanes
- 12-foot (4-meter) wide driving lanes
- 10-foot (3-meter) wide shoulders with 3 feet (1 meter) paved
- Approximately 100 feet (30 meters) total right-of-way (see "++" below)
- Posted speed 55 mph (90 km/h)
- No multi-use path



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way.

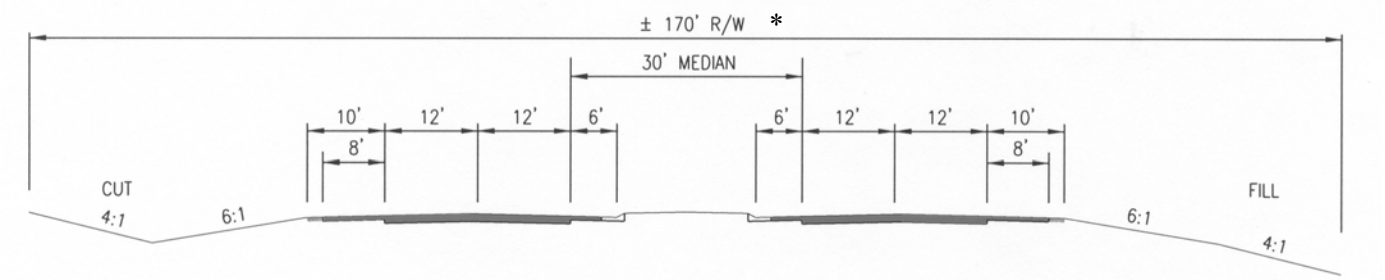
++ Right-of way acquisition in this sub segment would likely be to the 170 feet (52 meters) 4-Lane Corridor Preservation Alternative limits because some right-of-way is needed for the entire sub segment and this would ultimately resolve the environmental issues.

The best-fit alignment would be centered on the existing roadway. This allows partial use of existing pavement core and balances the need for additional right-of-way from both sides of WIS 83. The substandard reverse curve north of McFarlane Road would be replaced with a single horizontal curve to improve safety. Several hills and valleys would be cut and filled to meet current design standards.

4-Lane Corridor Preservation Alternative

The 4-Lane Corridor Preservation Alternative would be a hybrid urban/rural roadway as illustrated below and with the following key features:

- Shoulders and ditches on outside edge of driving lanes
- Approximately 170 feet (52 meters) total right-of-way
- Curb and gutter next to 30-foot (9-meter) median
- Curb on outside edge of pavement in isolated areas to minimize impacts
- Posted speed 55 mph (90 km/h)
- No multi-use path



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way.

The 4-lane hybrid urban/rural alternative would accommodate future traffic if and when the 13,800 AADT threshold would be reached, fits the rural/suburban character of the area, and provides storm water quality advantages with its grassed slopes and ditches. The 4-lane suburban alternative that was eliminated from further consideration would require approximately 130 feet (40 meters) total right-of-way but would reduce the present 55 mph (90 km/h) speed limit to 45 mph (70 km/h). The rural open nature of this WIS 83 segment is conducive to maintaining the present 55 mph (90 km/h) speed limit. This alternative would also lack the storm water quality advantages provided with the hybrid urban/rural alternative.

The best-fit alignment would widen the existing roadway to the west to minimize residential proximity impacts on the east side. Widening west would also provide construction staging advantages compared to widening down the middle. The substandard reverse curve north of McFarlane Road would be reconstructed to improve safety.

The improved roadway under the interim 2-Lane Reconstruction Alternative would serve as the northbound lanes of a future 4-Lane Corridor Preservation Alternative. This would minimize residential proximity impacts east of WIS 83. The substandard reverse curve north of McFarlane Road would be replaced with a single horizontal curve to improve safety. Several hills and valleys would be cut and filled to meet current design standards.

Section 2—County X to County DE/E (Walnut Street to WIS 59)

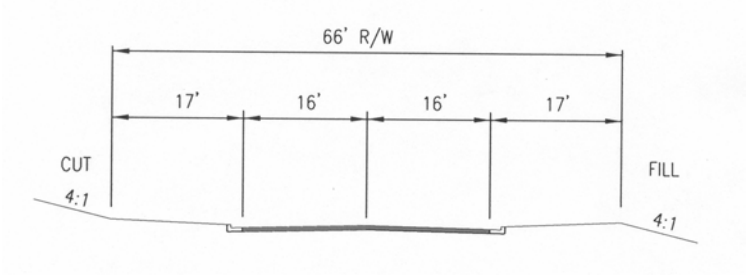
No Build Alternative

The No Build Alternative would consist of resurfacing the existing roadway and making safety improvements when pavement and structure conditions warrant and when safety concerns or capacity problems develop at isolated locations. Improvements would generally be made within existing right-of-way, and impacts would be minimal. This alternative would be implemented over time by adding such improvements to the TIP.

2-Lane Reconstruction Alternative

This interim improvement alternative would consist of reconstructing the existing 2-lane roadway to modern design standards and upgrading the WIS 59 intersection. Improvements at specific locations would be implemented over time through the TIP process. Based on the level of abutting development and the desire of the local officials and residents not to provide parking or sidewalks in the Walnut Street to WIS 59 segment, the interim 2-Lane Reconstruction Alternative is a 2-lane urban roadway as illustrated below and with the following key features:

- Curb and gutter on outside edge
- Approximately 66 feet (20 meters) total right-of-way
- Posted speed 35 mph (55 km/h)

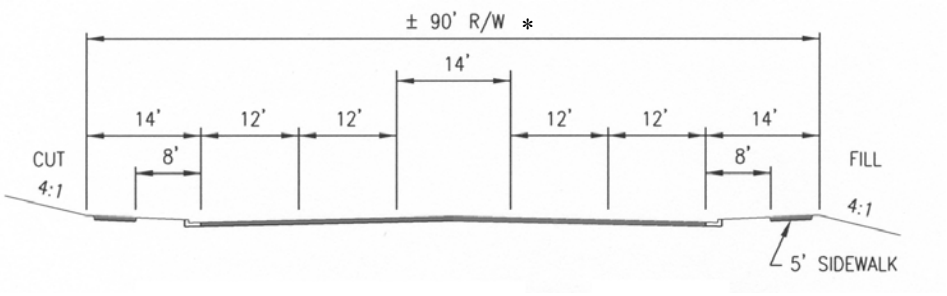


The best-fit alignment would be centered on the existing pavement to minimize residential and business proximity impacts on both sides of WIS 83.

4-Lane Corridor Preservation Alternative

The 4-Lane Corridor Preservation Alternative would be an urban roadway with a two-way center left turn lane as illustrated below and with the following key features:

- Curb and gutter on outside edge of driving lanes
- 14-foot (4-meter) median for left turns
- Approximately 90 feet (27 meters) total right-of-way
- Posted speed 35 mph (55 km/h)
- Pedestrian sidewalk



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way

The 4-lane urban roadway with a center turn lane would accommodate future traffic if or when the 13,800 AADT threshold would be reached, and the center two-way left turn lane would minimize conflicts with through traffic. Sidewalks would provide pedestrian access from the old Village of Genesee to the commercial area along WIS 59.

The best-fit alignment would widen the existing roadway down the middle. This alternative would minimize residential and business displacements on both sides of WIS 83 in this more densely developed segment. The 4-lane divided urban roadway alternative that was eliminated from further consideration would require approximately 100 feet (30 meters) total right-of-way and would increase overall impacts. The 4-lane undivided urban roadway alternative was eliminated from further consideration because it would not offer the safety and operational benefits provided by the proposed 4-lane divided roadway with a center left turn lane. Turning traffic from numerous driveways in this WIS 83 segment conflicts with through traffic and the 4-lane undivided urban roadway would not address this safety concern.

Section 2—County X to County DE/E (WIS 59 to County D)

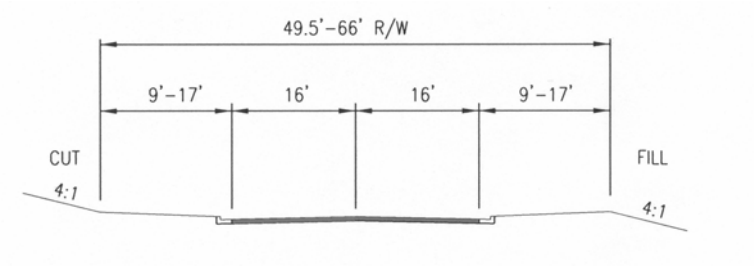
No Build Alternative

The No Build Alternative would consist of resurfacing the existing roadway and making safety improvements when pavement and structure conditions warrant and when safety concerns or capacity problems develop at isolated locations. Improvements would generally be made within existing right-of-way, and impacts would be minimal. This alternative would be implemented over time by adding such improvements to the TIP. For example, there is a project in the 2002-2004 TIP that calls for resurfacing WIS 83 from WIS 59 to Genesee Depot and from County D to County DE (includes the WIS 59 to County D segment).

2-Lane Reconstruction Alternative

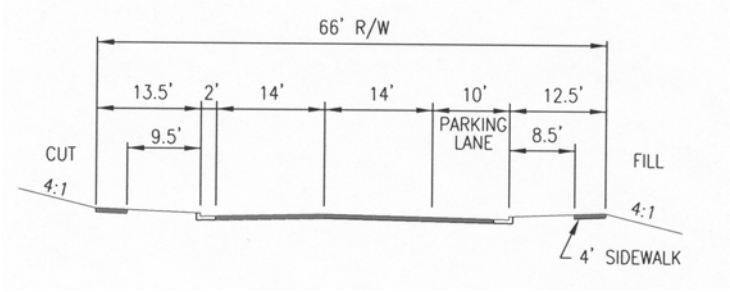
This interim improvement alternative would consist of reconstructing the existing 2-lane roadway to modern design standards and making minor improvements at the Depot Road intersection. Based on land use constraints and the desire of local officials and residents to provide parking and sidewalks only in the commercial area, the interim 2-Lane Reconstruction Alternative in the WIS 59 to County D segment is a 2-lane urban roadway as illustrated below and with the following key features:

- Curb and gutter on outside edge
- Approximately 66 feet (20 meters) total right-of-way
- Posted speed 25-35 mph (40-55 km/h)



The interim 2-Lane Reconstruction Alternative in the commercial/residential segment from the railroad to Depot Road is illustrated below and has the following key features:

- Curb and gutter on outside edge
- Approximately 66 feet (20 meters) total right-of-way
- Posted speed 25 mph (40 km/h)
- Parking on one side
- Pedestrian sidewalk



Commercial/residential segment
(Just south of Railroad to Depot Road, same pavement width as existing)

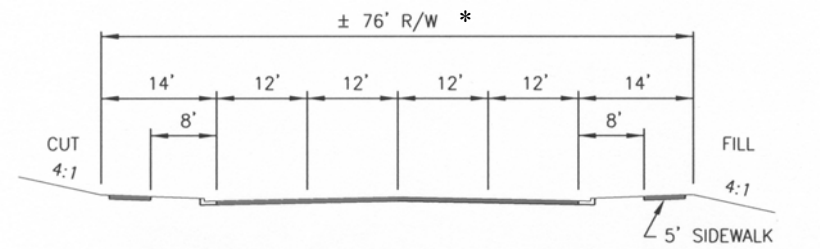
The best-fit alignment would be centered on the existing pavement.

Minor widening of the Depot Road curve to improve safety avoids historical properties and would not result in additional displacements.

4-Lane Corridor Preservation Alternative

The 4-Lane Corridor Preservation Alternative would be an undivided urban roadway as illustrated below and with the following key features:

- Curb and gutter on outside edge of driving lanes
- Approximately 76 feet (23 meters) total right-of-way
- Posted speed 25-35 mph (40-55 km/h)
- Pedestrian sidewalk



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way

The 4-lane undivided urban roadway would accommodate projected traffic if or when the 13,800 AADT threshold would be reached. Sidewalks would provide pedestrian access to the commercial area along WIS 59 and Genesee Depot. The 4-lane divided urban roadway alternative that was eliminated from further consideration would require approximately 100 feet (30 meters) total right-of-way and would increase overall impacts. The 4-lane urban roadway with a center left turn lane that was also eliminated from further consideration would require approximately 90 feet (27 meters) total right-of-way and would increase overall impacts. In addition, a separate left turn lane or median is not practical due to environmental constraints.

The best-fit alignment combination would be:

- Widen west from WIS 59 to approximately 3,200 feet (975 meters) north of WIS 59.

Widening west minimizes impacts to the Carroll College Conservancy and avoids the Woolen Mill Historic District east of WIS 83 that has been found eligible to the National Register of Historic Places. One valley would be filled over the west branch of Genesee Creek.

- Widen down the middle through the curve south of Genesee Depot to approximately 250 feet (76 meters) south of Longacre Road.

Widening down the middle minimizes proximity impacts to residences on both sides of WIS 83 and takes advantage of the existing pavement core.

- Widen west from approximately 250 feet (76 meters) south of Longacre Road to Depot Road.

Widening west would avoid right-of-way acquisition from the Old Genesee Town Hall that is listed on the National Register and the Union House that has been found eligible to the National Register. Both properties are located on the east/north side of WIS 83.

- Widen down the middle from Depot Road to approximately 800 feet (244 meters) north.

Widening down the middle minimizes proximity impacts to residences on both sides of WIS 83 and takes advantage of the existing pavement core. Minor widening of the Depot Road curve to improve safety avoids historical properties and would not result in additional displacements.

- Widen east from approximately 800 feet (244 meters) north of Depot Road to approximately 1,400 feet (427 meters) north of Depot Road.

Widening east avoids right-of-way acquisition from the Ten Chimneys property on the west side of WIS 83. This property is listed on the National Register and is in the process of being listed as a National Historic Landmark.

- Widen west from approximately 1,400 feet (427 meters) north of Depot Road to County D.

Widening west avoids the Magee-Oliver Farmstead on the east side of WIS 83 that has been found eligible to the National Register.

Section 2—County X to County DE/E (County D to County DE/E)

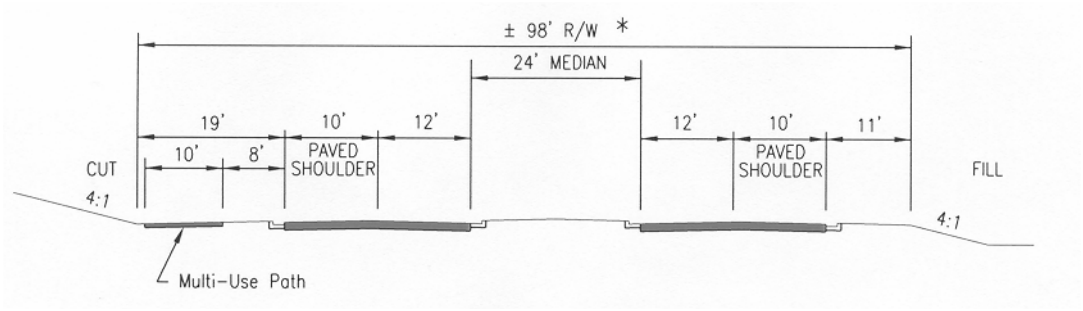
No Build Alternative

The No Build Alternative would consist of resurfacing the existing roadway and making safety improvements when pavement and structure conditions warrant and when safety concerns or capacity problems develop at isolated locations. Improvements would generally be made within existing right-of-way, and impacts would be minimal. This alternative would be implemented over time by adding such improvements to the TIP. For example, there is a project in the 2002-2004 TIP that calls for resurfacing WIS 83 from WIS 59 to Genesee Depot and from County D to County DE/E.

2-Lane Reconstruction Alternative

The interim 2-Lane Reconstruction Alternative would consist of reconstructing the existing 2-lane roadway to modern design standards. This alternative would be implemented over time by adding such improvements to the TIP. The proposed interim 2-Lane Reconstruction Alternative would be a 2-lane divided urban roadway with shoulders, as illustrated below and with the following key features:

- Curb and gutter on outside edge of driving lanes and next to 24-foot (7-meter) median
- Paved shoulders to accommodate turning vehicles
- Approximately 98 feet (30 meters) total right-of-way
- Posted speed 40 mph (65 km/h)
- Multi-use path on west side



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way.

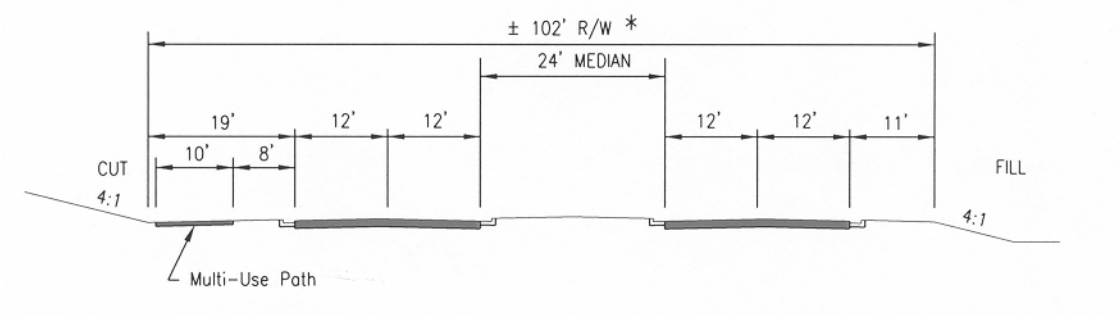
The median would provide an exclusive left turn lane and refuge for pedestrians and bicyclists. The 2-Lane Reconstruction Alternative could be expanded to a 4-lane roadway in the future by converting the paved shoulders to through traffic lanes. The multi-use path would connect to Genesee Depot and Wales.

The best-fit alignment would be centered on the existing roadway. This minimizes proximity impacts to residences on both sides of WIS 83, takes advantage of the existing pavement core, and improves the intersection sight distance at County D. One horizontal curve near London Drive would be lengthened and widened to the east to avoid a residential displacement west of WIS 83, to eliminate the existing reverse curve, and improve intersection sight distance.

4-Lane Corridor Preservation Alternative

The 4-Lane Corridor Preservation Alternative would be a divided urban roadway as illustrated below and with the following key features:

- Curb and gutter on outside edge of driving lanes and next to 24-foot (7-meter) median
- Approximately 102 feet (31 meters) total right-of-way
- Posted speed 40 mph (65 km/h)
- Multi-use path on west side



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way

The 4-lane divided urban roadway would accommodate projected traffic if or when the 13,800 AADT threshold would be reached. The median provides an exclusive left turn lane and refuge for pedestrians and bicyclists. The multi-use path would connect to Genesee Depot and Wales. The 4-lane suburban alternative that was eliminated from further consideration

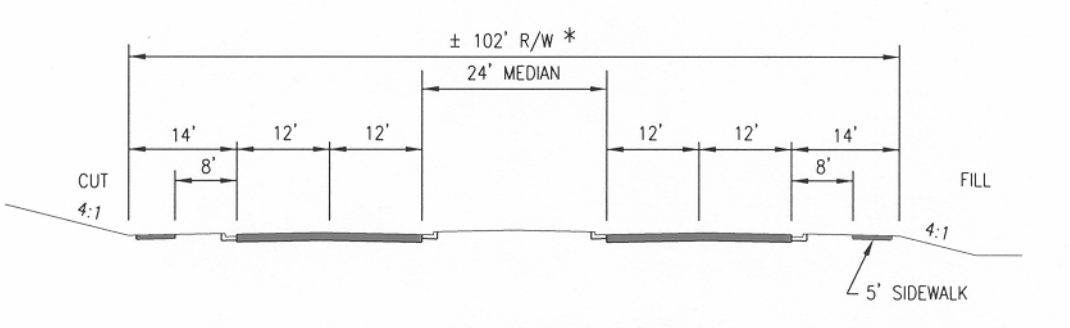
would require approximately 130 feet (40 meters) total right-of-way and would increase overall impacts.

The best-fit alignment would be centered on the existing roadway. This minimizes proximity impacts to residences on both sides of WIS 83, takes advantage of the existing pavement core, and improves the intersection sight distance at County D. One horizontal curve near London Drive would be lengthened and widened to the east to avoid a residential displacement west of WIS 83, to eliminate the existing reverse curve, and improve intersection sight distance.

Off-Alignment 4-Lane Corridor Preservation Alternative
At Genesee Depot

The reasonable Off-Alignment Alternative (Alternative D) is a 4-lane divided urban roadway as illustrated below and with the following key features:

- Curb and gutter on outside edge of driving lanes and next to 24-foot (7-meter) median
- Approximately 102 feet (31 meters) total right-of-way
- Posted speed 35 mph (55 km/h)
- Pedestrian sidewalk
- At-grade railroad crossing



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way

The Off-Alignment Alternative is 0.8 miles (1.3 km) in length, begins at the south end of Genesee Depot and extends to the Depot Road intersection. There would be a 4-way stop sign controlled intersection at Depot Road. A bridge would be required to cross the west branch of Genesee Creek and a pond. Existing WIS 83 through the Genesee Depot business area would serve as a local road and connect to the Off-Alignment Alternative at its south end. The Off-Alignment Alternative (Alternative D) would be in conjunction with the 4-Lane Preservation Alternatives beyond the new alignment limits.

The 4-lane suburban roadway alternative that was eliminated from further consideration would require approximately 130 feet (40 meters) total right-of-way and would increase overall impacts.

Section 3—County DE/E to Hillside Drive

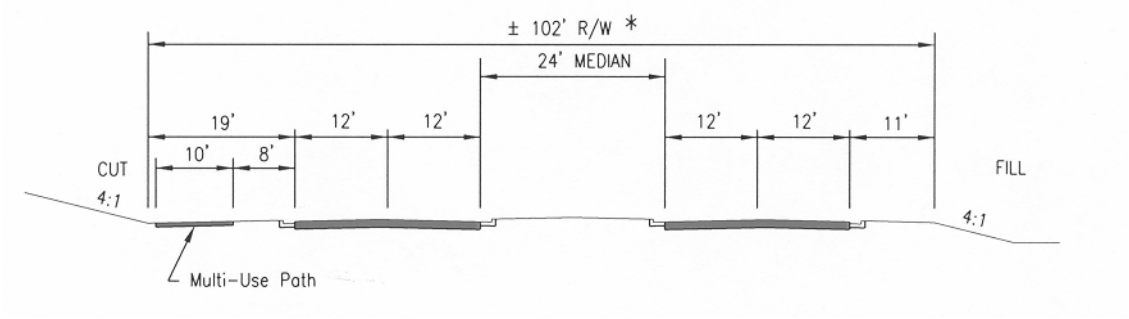
This project section is illustrated on Exhibit 2-5. Because there are unique characteristics within the overall County DE/E to Hillside Drive project section relative to appropriate alternatives, the following discussion is organized further by roadway subsections.

Section 3—County DE/E to Hillside Drive (County DE/E to County G)

Traffic in this segment is forecast to reach 25,300 AADT in Design Year 2026. The threshold volume that can be safely handled at an acceptable service level on the existing urban/suburban 2-lane highway is 13,800 AADT. Therefore, the No Build Alternative and the 2-Lane Reconstruction Alternative would not address the safety and capacity needs.

The proposed reasonable alternative is a 4-lane divided urban roadway as illustrated below and with the following key features:

- Curb and gutter on outside edge of driving lanes and next to 24-foot (7-meter) median
- Approximately 102 feet (31 meters) total right-of-way
- Posted speed 35 mph (55 km/h)
- Multi-use path on west side



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way

The 4-lane divided urban roadway would accommodate projected traffic and the median provides an exclusive left turn lane and refuge for pedestrians and bicyclists. The multi-use path would connect to Genesee Depot and Wales. The 4-lane suburban roadway alternative that was eliminated from further consideration would require approximately 130 feet (40 meters) total right-of-way and would increase overall impacts.

The best-fit alignment combination would be:

- Widen down the middle from County DE/E to approximately 1,200 feet (366 meters) north.

Widening down the middle takes advantage of existing right-of-way and horizontal alignment.

- Widen west from approximately 1,200 feet (366 meters) north of County DE/E to County G.

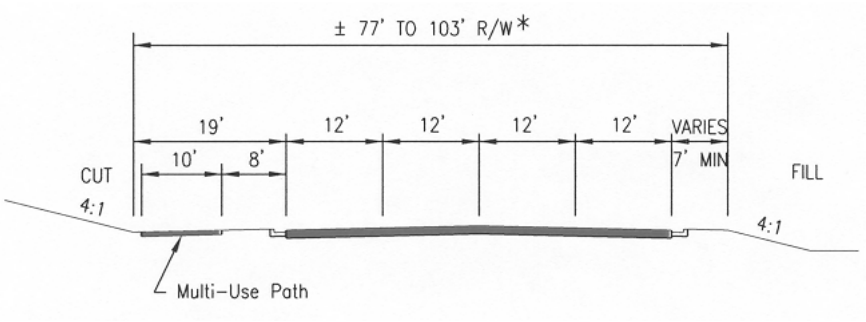
Widening west avoids impacts to the Jerusalem Cemetery east of WIS 83. One hill would be cut south of County G to provide improved intersection sight distance.

Section 3—County DE/E to Hillside Drive (County G to Welsh Road)

Traffic in this segment is forecast to reach 25,300 AADT in Design Year 2026. The threshold volume that can be safely handled at an acceptable service level on the existing urban/suburban 2-lane highway is 13,800 AADT. Therefore, the No Build Alternative and 2-Lane Reconstruction Alternative would not meet the safety and capacity needs.

The proposed reasonable alternative is a 4-lane undivided urban roadway as illustrated below and with the following key features:

- Curb and gutter on outside edge of driving lanes
- Approximately 77-103 feet (23-31 meters) total right-of-way
- Posted speed 35 mph (55 km/h)
- Multi-use path on west side



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way

The 4-lane undivided urban roadway would accommodate projected traffic, and there are minimal access points. The cemetery constraints on the east and west do not allow a wider cross section. The 4-lane divided urban roadway alternative that was eliminated from further consideration would require approximately 100 feet (30 meters) total right-of-way, and the 4-lane urban with a center two-way left turn lane that was also eliminated would require approximately 90 feet (27 meters) total right-of-way. Given the cemetery constraints and limited access points, neither of these alternatives were considered appropriate for this WIS 83 segment.

The best-fit alignment would widen east from County G to Welsh Road.

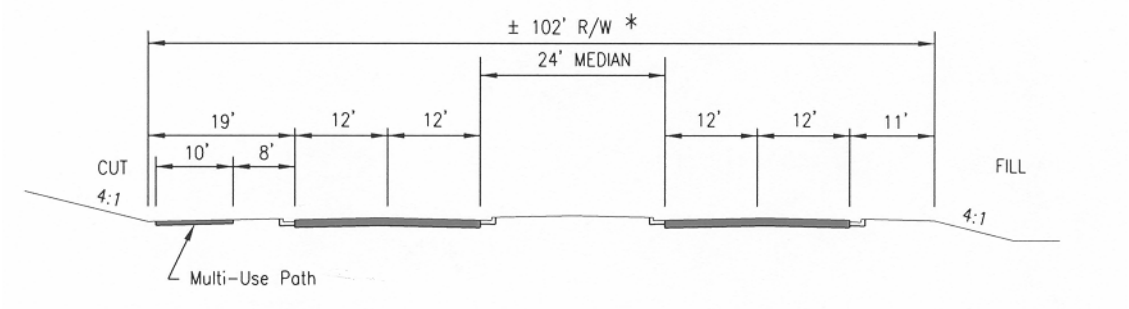
Widening east avoids impacting any known gravesites in the Salem Cemetery west of WIS 83. Strip right-of-way would be required from the south end of the cemetery where there are no known burial sites.

Section 3—County DE/E to Hillside Drive
(Welsh Road to US 18)

Traffic in this segment is forecast to reach 25,300 AADT in Design Year 2026. The threshold volume that can be safely handled at an acceptable service level on the existing urban/suburban 2-lane highway is 13,800 AADT. Therefore, the No Build Alternative and 2-Lane Reconstruction Alternative would not meet the safety and capacity needs.

The proposed reasonable alternative is a 4-lane divided urban roadway as illustrated below and with the following key features:

- Curb and gutter on outside edge of driving lanes and next to 24-foot (7-meter) median
- Approximately 102 feet (31 meters) total right-of-way
- Posted speed 35 mph (55 km/h)
- Multi-use path on west side



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way

The 4-lane divided urban roadway would accommodate projected traffic, and the median provides an exclusive left turn lane and refuge for pedestrians and bicyclists. The multi-use path would connect to Genesee Depot and Wales. The 4-lane undivided urban roadway alternative that was eliminated from further consideration would require approximately 76 feet (23 meters) total right-of-way, but would not provide an exclusive left turn lane. The 4-lane urban roadway with a center two-way left turn lane that was also eliminated would require approximately 90 feet (27 meters) total right-of-way. Safety and operational characteristics are worse for vehicles turning left from side roads and driveways compared to the median alternative. The center left turn lane provides minimal refuge for pedestrians and bicyclists.

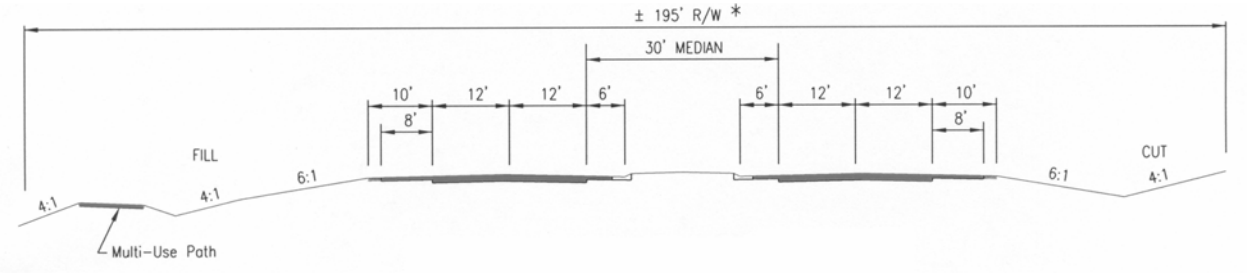
The best-fit alignment would be centered on the existing roadway. This minimizes proximity impacts to residences and businesses on both sides of WIS 83. A retaining wall on the west side of WIS 83 south of South Street would minimize slope grading and residential proximity impacts west of WIS 83. One hill at South Street would be cut to provide improved intersection sight distance. The hill over the Glacial Drumlin State Trail would be cut, and the bridge would be replaced.

Section 3—County DE/E to Hillside Drive (US 18 to Hillside Drive)

Traffic in this segment is forecast to reach 25,300 AADT in Design Year 2026. The threshold volume that can be safely handled at an acceptable service level on the existing urban/suburban 2-lane highway is 13,800 AADT. Therefore, the No Build Alternative and 2-Lane Reconstruction Alternative would not meet the safety and capacity needs.

The proposed reasonable alternative is a 4-lane hybrid urban/rural roadway as illustrated below and with the following key features:

- Shoulders and ditches on outside edge of driving lanes
- Curb and gutter next to 30-foot (9-meter) median
- Curb on outside edge of pavement in isolated areas to minimize impacts
- Approximately 195 feet (59 meters) total right-of-way
- Posted speed 45 mph (70 km/h)
- Multi-use path on west side



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way

The 4-lane hybrid urban/rural roadway would accommodate future traffic, fits the rural/suburban character of the area, and the grassed slopes and ditches provide storm water quality advantages. The 4-lane suburban alternative that was eliminated from further consideration would require approximately 130 feet (40 meters) total right-of-way but would lack the storm water quality advantages provided with the hybrid urban/rural alternative.

The best-fit alignment combination would be:

- Widen east from US 18 to approximately 200 feet (61 meters) north of Glacier Pass (south leg)

Widening east minimizes residential property impacts to the High Meadow subdivision west of WIS 83.

- Widen west from approximately 200 feet (61 meters) north of Glacier Pass (south leg) to approximately 1,200 feet (366 meters) south of Mary Court

Widening west balances residential property impacts, slope grading, and woodland impacts to the Hills of Delafield subdivision east of WIS 83 with some wetland impacts on the west.

- Widen east from approximately 1,200 feet (366 meters) south of Mary Court to approximately 550 feet (168 meters) south of Twin Oaks Drive

Widening east minimizes wetland impacts and avoids impacts to Scuppernong Creek west of WIS 83. A retaining wall on the east side of WIS 83 north of Mary Court would minimize slope grading and woodland impacts to the Hidden Hills Estates subdivision east of WIS 83. Other techniques to minimize impacts include guardrail, concrete barrier wall, and steeper side slopes. An additional retaining wall on the west side of WIS 83 south of Twin Oaks Drive would minimize slope grading and woodland impacts to the Twin Oaks subdivision.

- Widen down the middle from approximately 550 feet (168 meters) south of Twin Oaks Drive to Hillside Drive

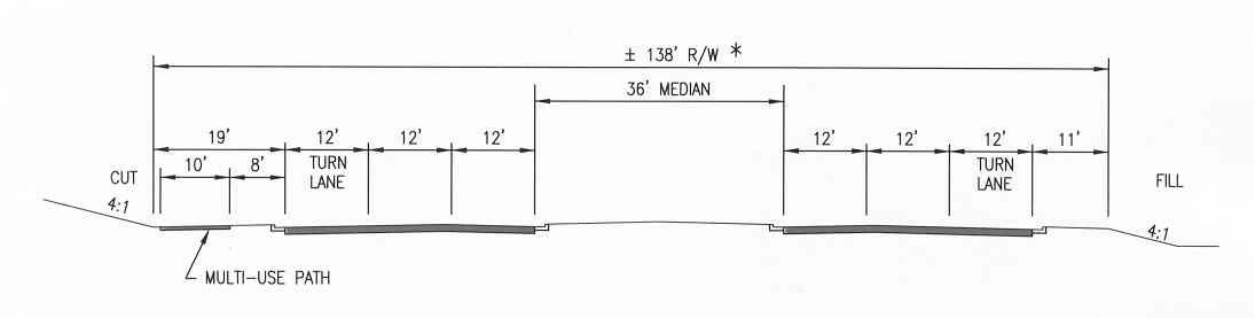
Widening down the middle provides a smooth transition from the southerly segment, eliminates several existing roadway kinks, and balances the residential proximity impacts.

Section 4—Hillside Drive to County DR/Golf Road

Traffic in this WIS 83 section (Exhibit 2-6) is forecast to reach 36,000 AADT in Design Year 2026. The threshold volume that can be safely handled at an acceptable service level on the existing urban 4-lane divided highway is 28,000 AADT. Therefore, the No Build Alternative would not meet the safety and capacity needs.

The proposed reasonable alternative is a 4-lane divided urban roadway with right turn lanes as illustrated below and with the following key features:

- Curb and gutter on outside edge of driving lanes and next to 36-foot (11-meter) median for dual left turns
- Approximately 138 feet (42 meters) total right-of-way
- Posted speed 35 mph (55 km/h)
- Multi-use path on west side



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way

The 4-lane divided urban roadway with right turn lanes would accommodate projected traffic, and the median provides exclusive left turn lanes and refuge for pedestrians. Sidewalks provide pedestrian access to the commercial areas. No other cross section alternatives were considered for this project section.

The best-fit alignment would widen down the middle. Widening down the middle in this commercial area minimizes business proximity impacts on both sides of WIS 83.

Section 5—County DR/Golf Road to Meadow Lane

Traffic in this WIS 83 section (Exhibit 2-6) is forecast to reach 26,300 AADT in Design Year 2026. The existing highway is a 4-lane suburban roadway with shoulders, a cross section that is considered sufficient to handle the forecast traffic. Therefore, no further mainline improvements are recommended in this WIS 83 section.

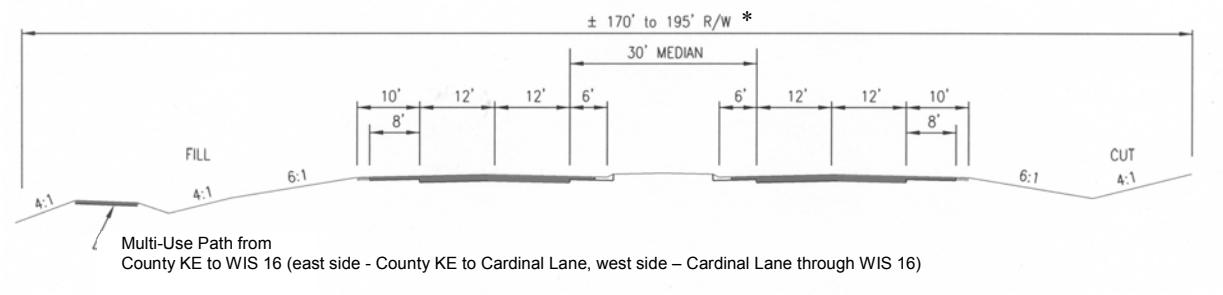
Alternatives to improve the Lake Country Trail crossing could include enhanced pavement marking, overhead flashing yellow beacon and signing at the crossing, rerouting the trail to the signalized County DR/Golf Road intersection, cutting the slope back on the 25-foot (8 meter) hill west of WIS 83 or constructing a retaining wall to improve the sight distance, and providing a grade separation structure. Long-term safety concerns include increased WIS 83 traffic volumes and an increase in trail use due to planned trail paving and connecting with the Ice Age Trail. A signal or grade separation would address these concerns.

Section 6—Meadow Lane to WIS 16

Traffic in this WIS 83 section (Exhibit 2-6) is forecast to reach 23,300 in Design Year 2026. The threshold volume that can be safely handled at an acceptable service level on the existing suburban 2-lane highway is 13,800 AADT. Therefore, the No Build Alternative and the 2-Lane Reconstruction Alternative would not meet the safety and capacity needs.

The proposed reasonable alternative is a 4-lane hybrid urban/rural roadway as illustrated below and with the following key features:

- Shoulders and ditches on outside edge of driving lanes
- Curb and gutter next to 30-foot (9-meter) median
- Curb on outside edge of pavement in isolated areas to minimize impacts
- Approximately 170-195 feet (52-59 meters) total right-of-way
- Posted speed 45 mph (70 km/h)
- Multi-use path from County KE to WIS 16



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way

The 4-lane hybrid urban/rural roadway would accommodate future traffic, fits the rural/suburban character of the area, and the grassed slopes and ditches provide storm water quality advantages. The multi-use path would connect to the Hartland path system. The 4-lane suburban alternative that was eliminated from further consideration would require approximately 130 feet (40 meters) total right-of-way but would lack the storm water quality advantages provided with the hybrid urban/rural alternative.

The best-fit alignment combination would be:

- Widen east from Meadow Lane to approximately 500 feet (152 meters) south of County KE

Widening east would minimize residential proximity impacts to the Lakewood Estates and Timber Ridge subdivisions west of WIS 83. The hill at Nagawicka Road would be cut to improve sight distance and flatten the substandard northbound downgrade.

- Widen down the middle from approximately 500 feet (152 meters) south of County KE to approximately 400 feet (122 meters) south of Walnut Ridge Drive (south leg)

Widening down the middle allows the use of existing pavement core and balances the need for additional right-of-way from both sides of WIS 83.

- Widen east from approximately 400 feet (122 meters) south of Walnut Ridge Drive (south leg) to approximately 1,200 feet (366 meters) south of Cardinal Lane.

Widening east would avoid right-of-way acquisition from the Albert Campbell Residence west of WIS 83 that has been found eligible to the National Register.

- Widen west from approximately 1,200 feet (366 meters) south of Cardinal Lane to WIS 16

Widening west would minimize business proximity impacts to the Hartland Industrial Park east of WIS 83. It would also take advantage of existing right-of-way and grading on the west that was reserved by WisDOT for future roadway widening. The north end of the WIS 16 interchange would be reconfigured to improve operations and safety.

Section 7—WIS 16 to Chapel Ridge Road

Traffic in this WIS 83 section (Exhibit 2-6) is forecast to reach 13,500 AADT in Design Year 2026. The threshold volume that can be safely handled at an acceptable service level on the existing suburban/urban 2-lane highway is 13,800 AADT. Traffic forecasts indicate this WIS 83 section would not need additional traffic capacity within an approximate 20-year planning period.

Therefore, the reasonable alternatives evaluated in this project section include the No Build Alternative as described on page 2-1 and the 2-Lane Reconstruction Alternative.

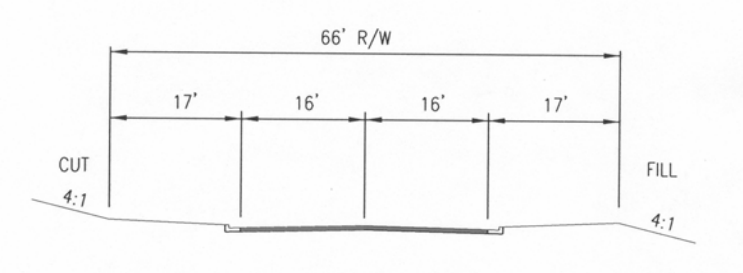
No Build Alternative

The No Build Alternative would consist of resurfacing the existing roadway and making safety improvements when pavement and structure conditions warrant and when safety concerns or capacity problems develop in this section. Improvements would generally be made within existing right-of-way, and impacts would be minimal.

2-Lane Reconstruction Alternative

This improvement alternative would consist of reconstructing the existing 2-lane roadway to modern design standards. Based on the level of abutting development, the 2-Lane Reconstruction Alternative is a 2-lane urban roadway as illustrated below and with the following key features:

- Curb and gutter on outside edge
- Approximately 66 feet (20 meters) total right-of-way
- Posted speed 25-35 mph (40-55 km/h)



*Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires additional right-of-way

The best-fit alignment would be centered on the existing roadway. This minimizes proximity impacts to residences on both sides of WIS 83 and takes advantage of the existing pavement core. Geometric deficiencies would be improved with a modernized WIS 16 interchange.

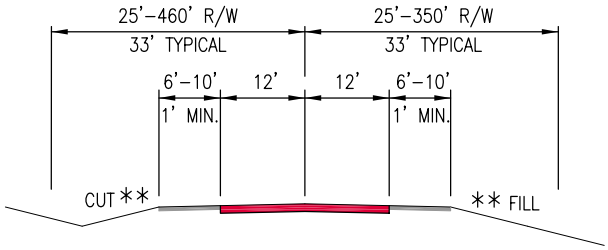
SELECTION OF A PREFERRED ALTERNATIVE

All of the alternatives presented and evaluated in this EIS will remain under consideration through the project's public hearing and EIS review/comment period. WisDOT will select a preferred course of action after evaluating all comments received from the public hearing and availability of the EIS for public and agency review. The preferred course of action will be identified in the Final EIS.

SEWRPC is the designated federal Metropolitan Planning Organization (MPO) for ensuring air quality conformity in southeastern Wisconsin. Six of the counties, including Waukesha County, are considered severe non-attainment for ozone standards. Under the 1990 Clean Air Act Amendments, proposed highway improvements involving capacity expansion must be included in SEWRPC's regional transportation system plan and an approved Transportation Implementation Plan (TIP) to be in conformance with the State Implementation Plan for air quality (SIP).

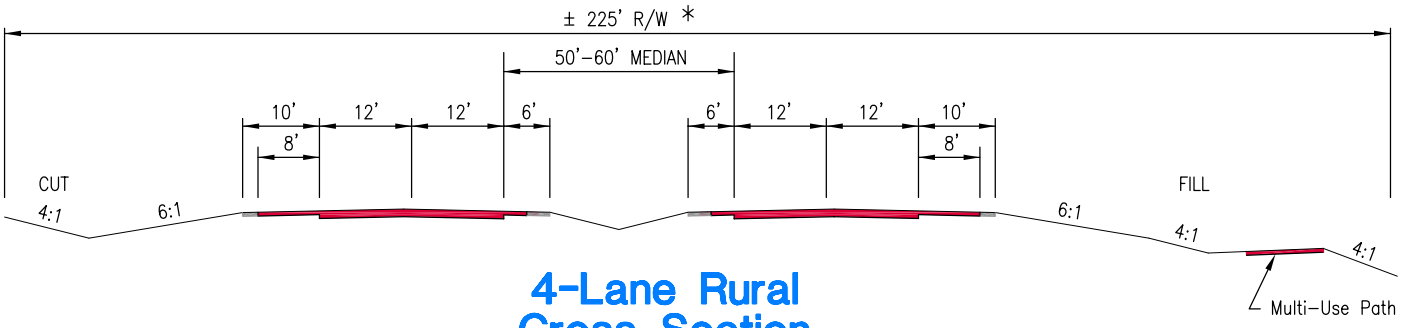
The alternatives evaluated in the EIS are all consistent with the *2020 Regional Transportation System Plan for Southeastern Wisconsin*. It should be noted that the plan recommends two traffic lanes between WIS 59 and County DE/E, therefore the 4-Lane Corridor Preservation Alternative for this roadway section, if ultimately selected/implemented, would require amending the regional transportation system plan.

Selection of a preferred alternative will also be done in accordance with the Clean Water Act's Section 404(b)(1) *Guidelines for Specification of Disposal Sites for Dredged or Fill Material* (40 CFR Part 230) administered by the Environmental Protection Agency and the U.S. Army Corps of Engineers. The guidelines state that dredged or fill material should not be discharged into aquatic ecosystems (including wetlands) unless it can be demonstrated that there are no practicable alternatives to such discharge, that such discharge will not have unacceptable adverse impacts, and that all practicable measures to minimize adverse effects are undertaken.

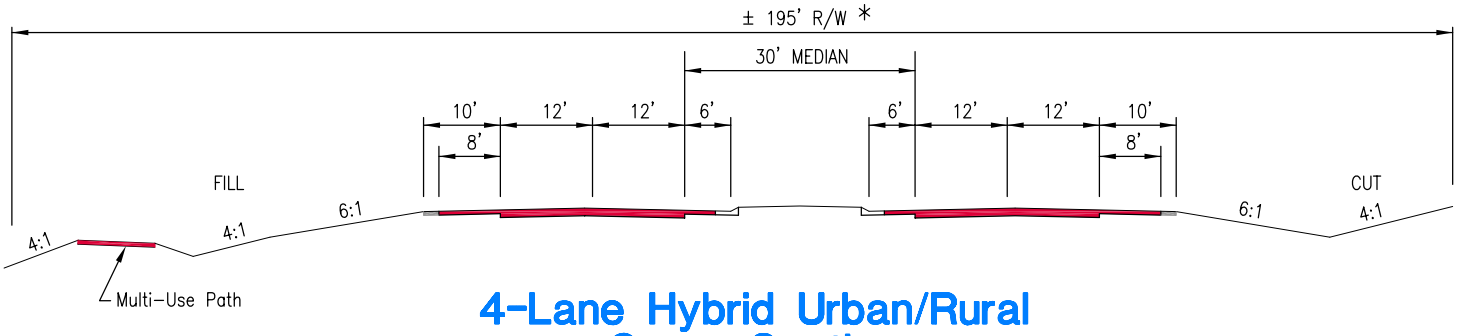


Existing Cross Section

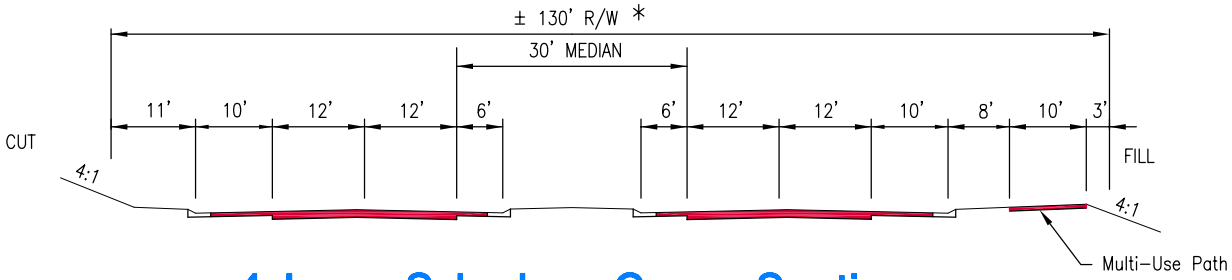
** Shoulder curb in Genesee Depot subsection



4-Lane Rural Cross Section



4-Lane Hybrid Urban/Rural Cross Section

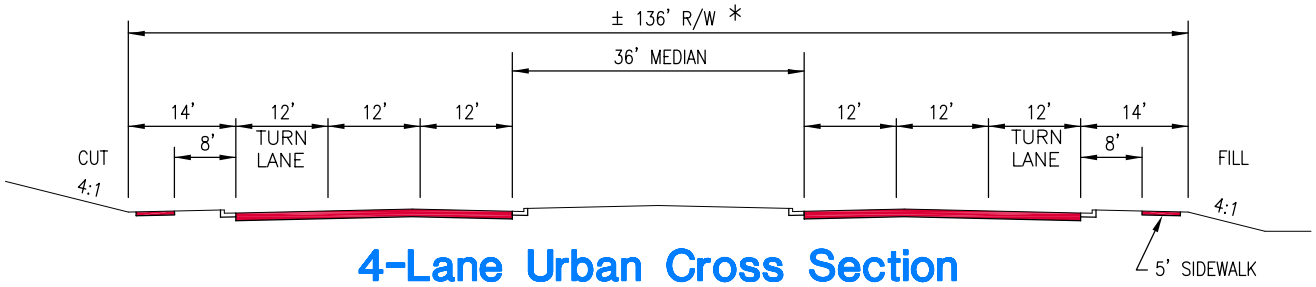


4-Lane Suburban Cross Section (with shoulders)

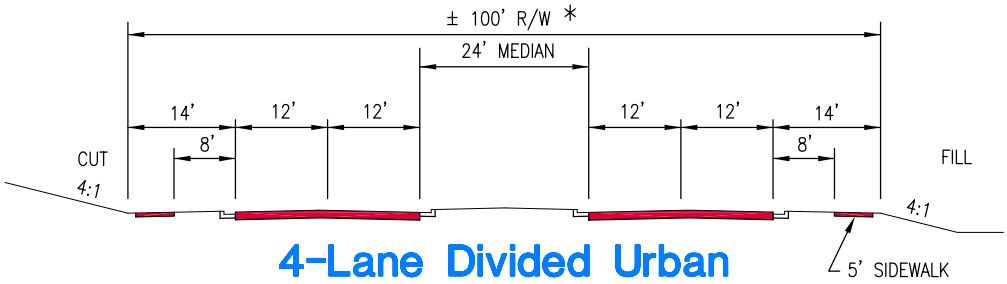
* Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires addtional right–of–way.

Exhibit 2-1

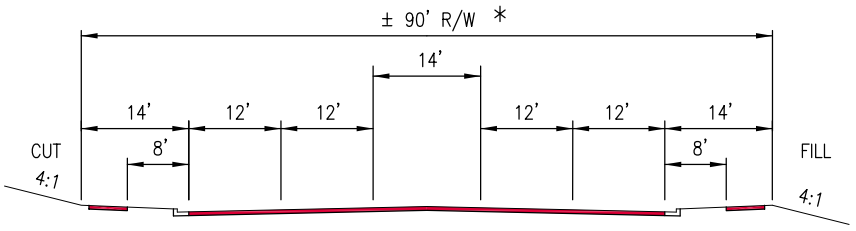
Initial WIS 83 Roadway Dimensions



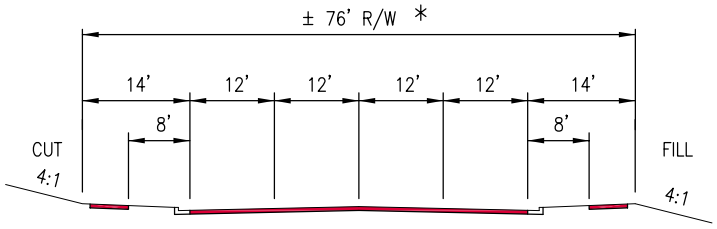
4-Lane Urban Cross Section with Right Turn Lanes



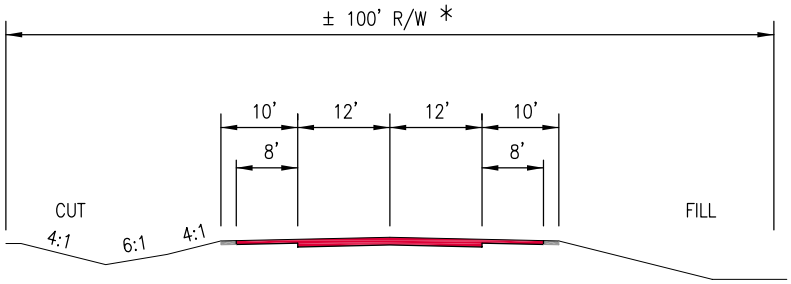
4-Lane Divided Urban Cross Section



4-Lane Urban Cross Section with Center Left Turn Lane



4-Lane Undivided Urban Cross Section

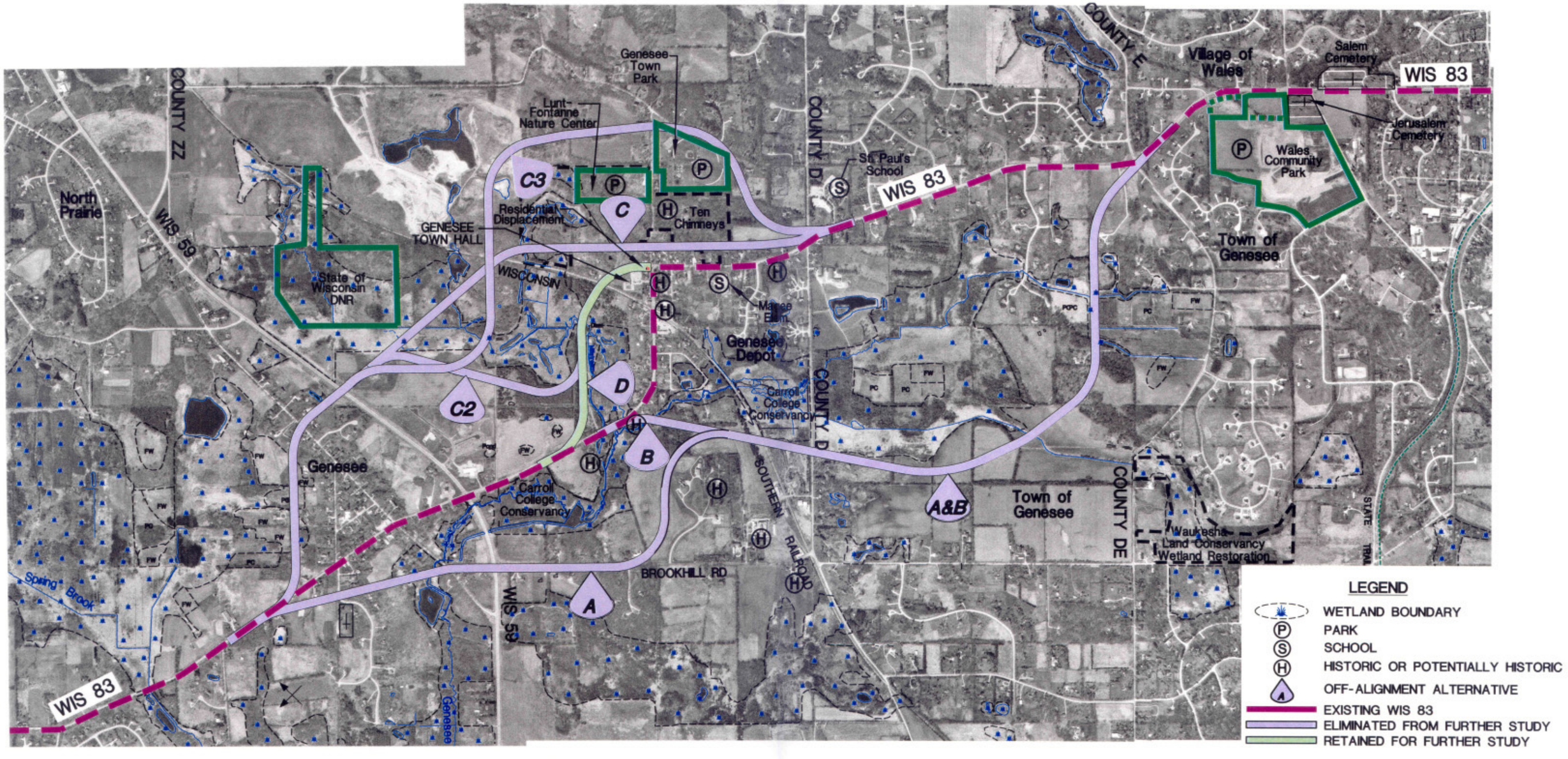


2-Lane Rural Cross Section

* Adequate for cuts/fills up to 5 feet. Larger cuts/fills requires addtional right-of-way.

Exhibit 2-1

Initial WIS 83 Roadway Dimensions



N

Exhibit 2-2
Initial Off-Alignment
4-Lane Corridor Preservation
(Genesee Depot area Alternative)

Exhibit 2-3

Impact Comparison for 4-lane Corridor Preservation Alternative (Genesee Depot area)

Alternative[1]	Potential Impacts[2]							
	Length (miles)	Total New Right-of-Way (acres)	Parcel Severances (number)	Potential Historic Sites (number)	Residential Displacements (number)	Business Displacements (number)	Wetlands (acres)	New Stream Crossings (number)
A	**3.6**	**53**	**10**	**0**	**3**	**1**	**2.0**	**3**
Off-Alignment Portion	3.6	53	10	0	3	1	2.0	3
B	**3.3**	**38**	**8**	**1**	**5**	**3**	**0.9**	**3**
Off-Alignment Portion	2.3	36	8	1	3	1	0.8	3
C	**3.4**	**45**	**7**	**1**	**5**	**0**	**6.9**	**4**
Off-Alignment Portion	2.3	42	7	1	5	0	6.9	4
C2	**3.6**	**37**	**7**	**2**	**5**	**0**	**4.3**	**1**
Off-Alignment Portion	2.0	34	7	0	4	0	4.3	1
C3	**4.0**	**49**	**8**	**1**	**4**	**0**	**3.9**	**3**
Off-Alignment Portion	2.9	46	8	1	4	0	3.9	3
D[3]	**3.1**	**13**	**1**	**2**	**4**	**2**	**0.4**	**1**
Off-Alignment Portion	0.8	9.9	1	0	1	0	0.4	1
Through Town	**3.1**	**5.5**	**0**	**2**	**7**	**4**	**0.1**	**0**

Notes:

1. *Future 4-lane facility assumes "suburban with shoulders" cross-section.*
2. *Impacts are for common termini (Walnut St/Seville Ln. to CTH DE/E).*
3. *Alternative D has been retained for detailed evaluation in the EIS; all other off-alignment alternatives have been eliminated from further consideration.*

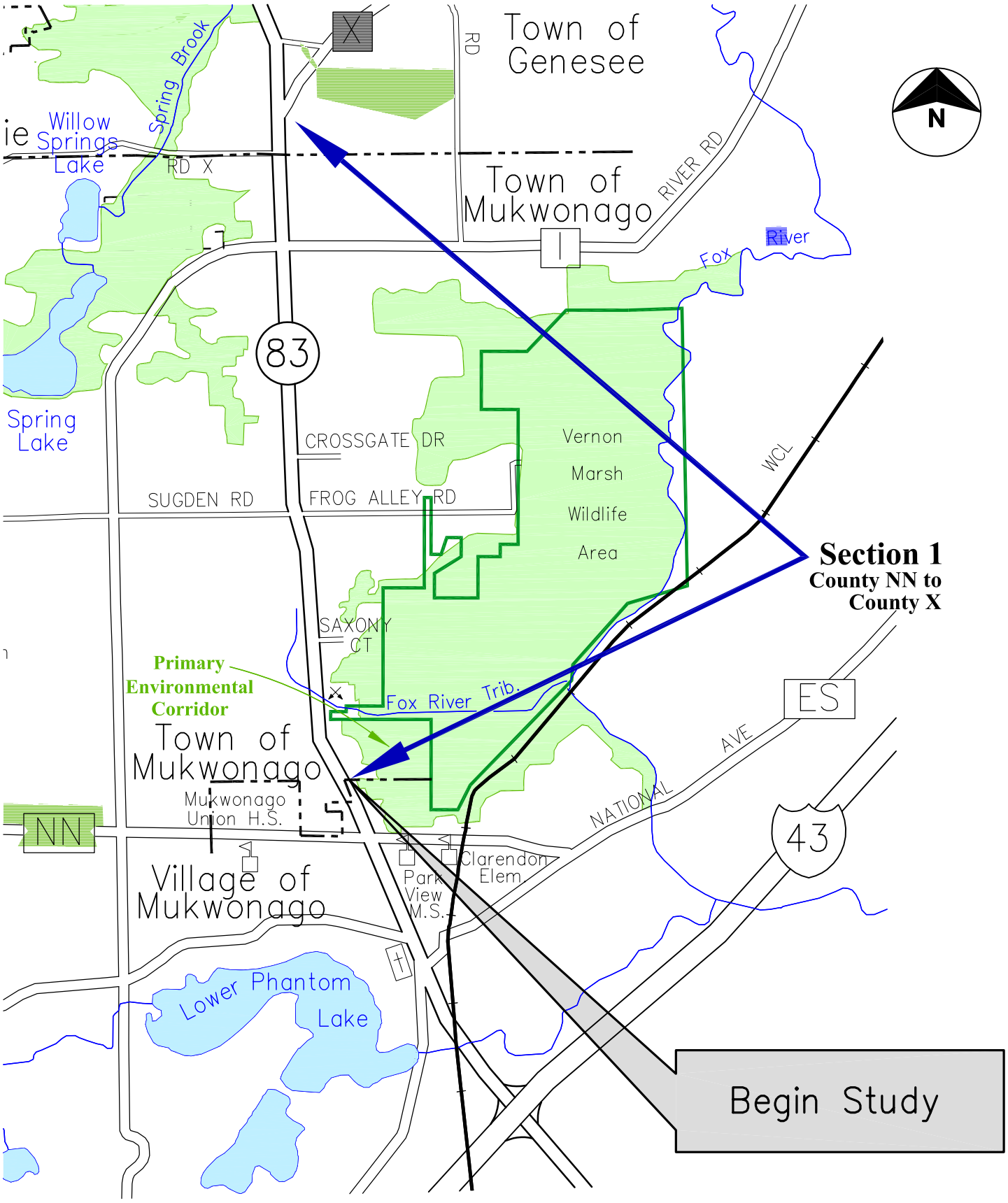


Exhibit 2-4
WIS 83 Section 1

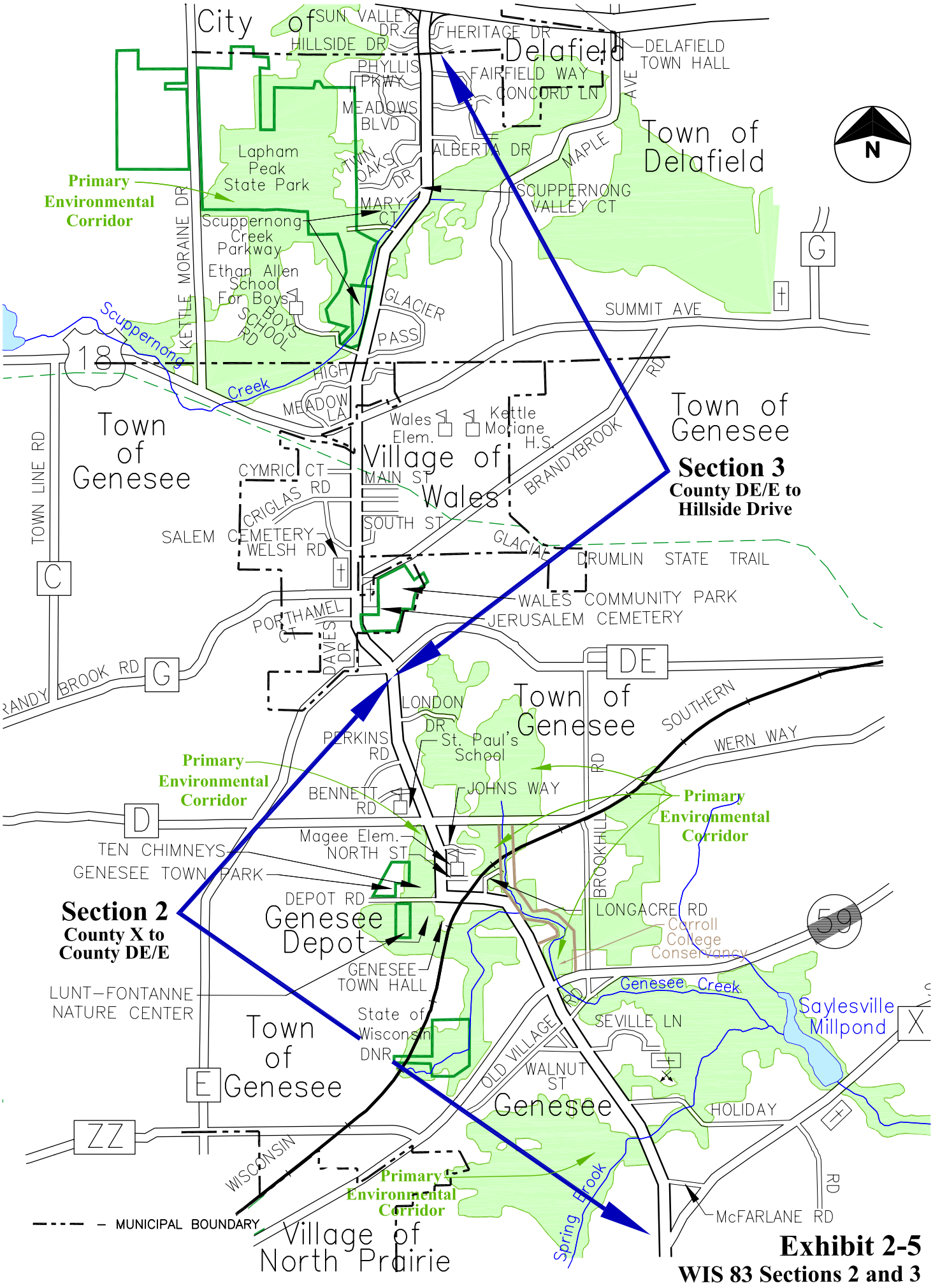


Exhibit 2-5
WIS 83 Sections 2 and 3

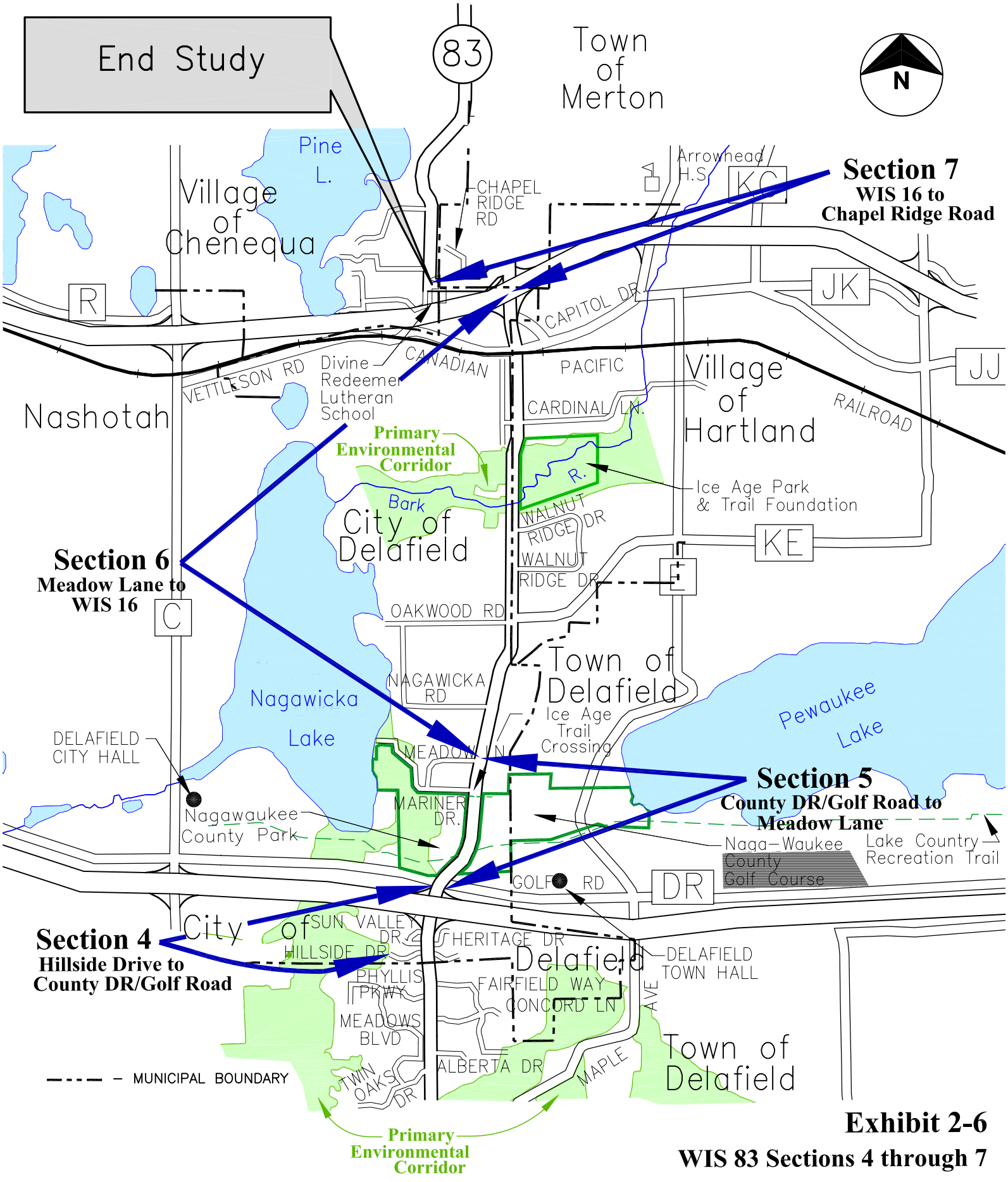


Exhibit 2-6

WIS 83 Sections 4 through 7